

Effects of long-term aerobic activity on plasma levels of apelin and omentin in rats

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*Abstract

Background: Apelin and omentin are adipose tissue-secreted hormones and affect the metabolism.

Objective: The aim of this study was to investigate the effects of long-term aerobic activity with different intensities on plasma levels of apelin and omentin in female rats.

Methods: This experimental study was conducted on 60 Sprague-Dawley female rats (2-month-old) in laboratory affiliated to Shiraz University of Medical Sciences during 2014. Blood samples were taken from 15 rats in the pre-test group to measure the variables of interest. The remaining rats were divided into three groups based on treadmill speed (12, 14, and 16m/min). After a single 45-min session of treadmill running, blood samples were taken. Data were analyzed using two-way ANOVA.

Findings: The plasma levels of apelin and omentin were not significantly different between the three post-test groups. But the difference between the pre-test group and the post-test groups was statistically significant.

Conclusion: With regards to the results, adipokines response (apelin and omentin) to a single-session exercise is not the same and the secretion of each one occurs at a specific intensity and duration threshold of sports activity.

Keywords: Exercise, Adipokines, Apelin, Omentin

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